

ASSIGNMENT 1

Textbook Assignment: "Basic Display Devices and Systems", chapter 1, pages 1-1 through 1-15, "Personal Computer Video Displays and Input Devices", chapter 2, pages 2-1 through 2-7.

- 1-1. Information available for viewing only as long as it remains on the screen of the display is known as what type of information?
1. Soft copy
 2. Hard copy
 3. Temporary
 4. Nonpermanent
- 1-2. Which of the following is the best description of the function of a cathode-ray tube (CRT)?
1. Converts light into a visual display
 2. Converts digital signals into a magnetic signal
 3. Converts electronic signals into a visual display
 4. Converts operator entered inputs to a visual display
- 1-3. A CRT must contain a vacuum for which of the following reason?
1. Air molecules could interfere with the electron beam
 2. Gases could ionize and short out the CRT
 3. Oxygen could cause the CRT filament to burn up
 4. Each of the above
- 1-4. The inside of the face of the CRT is coated with which of the following materials?
1. Phosphor
 2. Phosphorus
 3. Phosphene
 4. Phosphate
- 1-5. The time that a display produced by an electron beam remains on the screen is known by which of the following terms?
1. Scan
 2. Persistence
 3. Focus
 4. Blanking
- 1-6. Which component of a CRT acts as a source for the electron beam?
1. Deflection system
 2. Control grid
 3. Electron gun
 4. Phosphor screen
- 1-7. Applying a small ac voltage to the filament of a CRT causes which of the following events to occur?
1. The beam is blanked
 2. The beam is unblanked
 3. Electrons are attracted to the cathode
 4. Electrons are freed from the cathode

- 1-8. When the voltage applied to the control grid is negative in respect to the cathode, which of the following occurs?
1. The electron beam is turned on
 2. The electron beam is unblanked
 3. The electron beam is blanked
 4. The electron beam is focused
- 1-9. The intensity of light generated by the phosphor coating of the CRT is dependant on which of the following factors?
1. The strength of the electron beam
 2. The voltage applied to the focus grid
 3. The voltage applied to the screen grid
 4. The voltage applied to the phosphor screen
- 1-10. A change in which of the following voltages will result in a change in the diameter of the electron beam?
1. Cathode filament voltage
 2. Focus grid voltage
 3. Control grid voltage
 4. Screen grid voltage
- 1-11. Which of the following elements of a CRT moves the electron beam to create the display?
1. Electron gun
 2. Control grid
 3. Focusing grid
 4. Deflection system
- 1-12. A CRT that uses current flowing through an external yoke assembly to deflect the electron uses what type of deflection?
1. Electrostatic deflection
 2. Electromagnetic deflection
 3. Internal deflection
 4. External deflection
- 1-13. The yoke assembly of a CRT contains how many coils?
1. One
 2. Two
 3. Three
 4. Four
- 1-14. Current flowing through a single coil of a yoke produces a magnetic field at what angle to the coil?
1. 0°
 2. 30°
 3. 60°
 4. 90°
- 1-15. Which of the following is a description of electrostatic deflection in a CRT?
1. Current flowing through an external coil creates a magnetic field that moves the beam
 2. Current flowing through an internal coil creates a magnetic field that move the beam
 3. An electrical charge applied to plates inside the CRT moves the beam
 4. An electrical charge applied to plates outside of the CRT moves the beam
- 1-16. All raster scan CRTs use electromagnetic deflection.
1. True
 2. False

- 1-17. Developing the display or picture on a CRT by using a series of horizontal lines across the face of a CRT is known as what type of scanning?
- 1 Raster scan
 - 2 Vector scan
 - 3 Interlaced vector scan
 - 4 Noninterlaced vector scan
- 1-18. Interlacing the picture displayed on a CRT increases the resolution of the picture by increasing the number of lines per frame by what factor?
1. 1
 2. 2
 3. 3
 4. 4
- 1-19. What, if anything, is a disadvantage of using an interlaced scan CRT for graphic digital displays?
1. Decrease in resolution
 2. Visible flicker when displaying fine graphics
 3. Increase in the time required to refresh the display
 4. Nothing; there is no disadvantage in using interlaced scan
- 1-20. To display a frame of data on a CRT that uses noninterlaced scan, the number of lines displayed is increased by (a) the horizontal frequency and (b) the vertical frequency.
1. (a) Increasing
(b) decreasing
 2. (a) Increasing
(b) increasing
 3. (a) Decreasing
(b) decreasing
 4. (a) Decreasing
(b) increasing
- 1-21. A vector scan CRT uses what coordinate system to position the electron beam?
1. Polar
 2. Rectangular
 3. Spherical
 4. X/Y
- 1-22. With respect to the origin, where will a positive X value and a positive Y value position the CRT beam?
1. To the right and above
 2. To the right and below
 3. To the left and above
 4. To the left and below
- 1-23. With respect to the origin, where will a negative X value and a positive Y value position the CRT beam?
1. To the right and above
 2. To the right and below
 3. To the left and above
 4. To the left and below

- 1-24. Which of the following vector scan CRT functions is controlled by the Z signal?
1. Vertical deflection
 2. Horizontal deflection
 3. Focus of the electron beam
 4. Blanking of the electron beam
- 1-25. How many phosphor dots are in a triad?
1. One
 2. Two
 3. Three
 4. Four
- 1-26. The phosphor dots of a triad are dyed to emit what colors when struck by an electron beam?
1. Red, blue, and yellow
 2. Red, blue, and green
 3. Red, yellow, and green
 4. Blue, green, and white
- 1-27. The resolution of a color CRT is measured by which of the following standards?
1. The size of the CRT
 2. The area of the CRT
 3. The size of each triad
 4. The size of each pixel
- 1-28. How many electron beams are use in a color CRT?
1. One
 2. Two
 3. Three
 4. Four
- 1-29. Which of the following alignment is NOT required when using a single gun, three beam CRT?
1. High voltage
 2. Low voltage
 3. Convergence
 4. Focus
- 1-30. The quadrant in which the sweep is displayed is determined by which of the following signals?
1. Range marks
 2. End-of-sweep
 3. Digital sweep
 4. Sign of X and Y
- 1-31. The sweep deflection outward from the center of the CRT screen is started by which of the following signals?
1. End-of-sweep
 2. Zero mile range mark
 3. Sign of X and Y
 4. Intensified
- 1-32. The CRT beam retrace to the center of the CRT screen is caused by which of the following signals?
1. End-of-sweep
 2. Zero mile range mark
 3. Sign of X and Y
 4. Intensified video
- 1-33. To display a radar reflection from a contact, which of the following signals is used?
1. End-of-sweep
 2. Zero mile range mark
 3. Sign of X and Y
 4. Intensified video
- 1-34. To paint a symbol on the PPI console, the CRT beam is momentarily deflected from the radar sweep, used to paint the symbol, and then returned to continue the sweep.
1. True
 2. False

1-35. What geometric shape is displayed on a CRT if two sine waves of equal amplitude and 90° out of phase are applied to the X and Y axes?

1. Square
2. Circle
3. Rectangle
4. Diamond

1-36. Symbols painted on a PPI CRT are defined by which of the following equipment?

1. Pulse amplifier
2. Symbol generator
3. Computer
4. PPI console

1-37. For the generation of analog waveform symbols, which of the following equipment is required?

1. Computer, pulse amplifier, and CIGARS console (console internally generated and refreshed symbols)
2. Computer, pulse amplifier/symbol generator (PA/SG), and console(s)
3. Computer, symbol generator, and console(s)
4. PA/SG and console(s)

1-38. Which of the following equipment uses computer output data to position the blanked CRT beam to the coordinates of the symbol?

1. Console
2. PA
3. SG
4. Computer

1-39. The timing period during which the analog waveform symbol is mechanized is known as

1. X-time
2. Y-time
3. Z-time
4. P-time

1-40. What is the source of the analog symbol waveforms received by the console deflection amplifiers?

1. SG (symbol generator)
2. PA (pulse amplifier)
3. CIGARS console
4. Computer

1-41. What action, if any, must take place to prevent flicker of the displayed Symbology?

1. The persistence of the CRT must be decreased
2. The persistence of the CRT must be increased
3. The symbol must be refreshed periodically by repainting the symbol
4. None, symbols do not flicker

1-42. The digital strike symbol generator stores symbol stroke codes in what type of memory ?

1. Random access memory (RAM)
2. Read-only-memory (ROM)
3. Programmable read-only-memory (PROM)
4. Either 2 or 3 is correct, depending on configuration

- 1-43. What signal output is used to ensure the completion of a stroke prior to the start of a new stroke?
1. Sign X, X, 2X
 2. Sign Y, Y, 2Y
 3. z
 4. w
- 1-44. What signal controls the vertical movement of the CRT beam when a symbol is painted using the digital stroke method?
1. Sign X, X, 2X
 2. Sign Y, Y, 2Y
 3. z
 4. w
- 1-45. What signal unblanks the CRT beam when a symbol is painted using the digital stroke method?
1. Sign X, X, 2X
 2. Sign Y, Y, 2Y
 3. z
 4. w
- 1-46. What signal controls the horizontal movement of the CRT beam when the digital stroke method is used?
1. Sign X, X, 2X
 2. Sign Y, Y, 2Y
 3. z
 4. w
- 1-47. What is the maximum amount the CRT beam can be deflected during a single stroke address?
1. One stroke space
 2. Two stroke spaces
 3. Three stroke spaces
 4. Four stroke spaces
- 1-48. When a symbol is painted using the digital stroke method, what PROM output indicates that the symbol is complete?
1. All 8 outputs active
 2. All 8 outputs inactive
 3. End of symbol signal active
- 1-49. What is the main function of the Data Display Group AN/UYA-4(V)?
1. To provide recorded data of tactical information
 2. To provide an alpha-numeric display of operator actions
 3. To provide a real-time visual picture of the tactical situation
 4. To provide a means of low visibility navigation
- 1-50. All video monitors need analog signals as inputs.
1. True
 2. False
- 1-51. The composite video monitor has which of the following features?
1. Its timing and video inputs are on separate input lines
 2. Its timing and video inputs are combined on the same input line
 3. It is capable only of color display
 4. It has extremely high resolution

1-52. The RGB monitor has which of the following characteristics?

1. A separate input for each color (red, green, and blue)
2. A single input that combines all three colors
3. Lower resolution than that of the composite video monitor
4. Only monochrome picture display capability

1-53. What maximum number of text lines can be displayed on the EGA monitor?

1. 25
2. 33
3. 43
4. 50

1-54. Which of the following design features allows VGA monitors to display over 256,000 colors?

1. The use of digital input signals
2. The use of better CRTs
3. The use of a composite video signal
4. The use of analog input signals

1-55. A multisync monitor has which, if any, of the following advantages?

1. It uses only one type of video adapter
2. It can detect the rate that data is received and adjust to several types of video adapters
3. It accepts only analog video signals
4. None

1-56. Which of the following characteristics is/are determined by the video adapter installed in a personal computer?

1. The number of colors that can be displayed only
2. The speed at which the video display is updated only
3. Both 1 and 2 above
4. The resolution of the monitor

1-57. For which of the following reasons is the monochrome display adapter generally considered obsolete?

1. It generates a text only display
2. It generates a low quality graphics display
3. It generates low resolution color display
4. It uses TTL logic

1-58. Which of the following is the resolution of the basic alphanumeric character set developed by the CGA adapter?

1. 8 x 14 pixels
2. 8 x 8 pixels
3. 9 x 14 pixels
4. 9 x 9 pixels

1-59. How many colors can the CGA card display when set for the all points addressable, high resolution mode?

1. 1
2. 2
3. 16
4. 4

1-60. The EGA card is capable of displaying (a) colors with a maximum resolution of (b).

1. (a) 4 (b) 320 x 200
2. (a) 4 (b) 640 x 200
3. (a) 16 (b) 320 x 200
4. (a) 16 (b) 640 x 200

1-61. The VGA card can generate 262,144 colors by which of the following methods?

1. Using analog signals to control the CRT electron guns
2. Using digital signals to control the CRT electron guns
3. Using analog signals to control the CRT anode
4. Using digital signals to control the CRT anode

1-62. The SVGA graphic adapters conform to a strict set of standards.

1. True
2. False

1-63. The XGA system communicates with the CPU using what type of data bus?

1. 8-bit bus master
2. 16-bit bus master
3. 32-bit bus master
4. 64-bit bus master

1-64. The XGA system can provide near photographic quality color using which of the following resolution modes?

1. 256 colors at 1024 x 768
2. 256 colors at 640 x 480
3. 65,536 colors at 1024 x 768
4. 65,536 colors at 640 x 480

1-65. Liquid crystal displays (LCDs) are ideal for use with laptop and notebook computers for which of the following reasons?

1. They have low power consumption only
2. They require low voltages to operate only
3. Both 1 and 2 above
4. They are unbreakable

1-66. Which of the following is a disadvantage of a color passive LCD?

1. Slow response time
2. Ability to display only 262,144 colors
3. High contrast
4. High power consumption

1-67. Which of the following devices is responsible for the development of the active matrix LCD display?

1. Thin film memory
2. Thin film transistor
3. Field effect transistor
4. Semi-conductor transistor

1-68. In an active matrix LCD how many LCD crystals are required for each pixel?

1. One
2. Two
3. Three
4. Four

1-69. What is the primary operator input device used with personal computers?

1. Trackball
2. Mouse
3. Keyboard
4. Monitor

1-70. Which of the following keys was/were repositioned on the 101-key keyboard?

1. F11, F12
2. CTRL
3. ALT
4. ENTER

1-71. The CTRL and ALT keys of a keyboard are used for which, if any, of the following functions?

1. To control the program
2. Allow the programmers to assign additional meanings to the standard keys
3. Allow the programmer to debug the program
4. None of the above

1-72. A mouse is virtually required when which of the following types of programs is used?

1. Word processing
2. Data base
3. Spreadsheet
4. Graphic user interface (GUI)

1-73. What type of mouse is installed in a special interface board and communicates with the computer across the main bus?

1. Serial
2. Parallel
3. Trackball
4. Bus

1-74. A personal computer trackball emulates which of the following input devices?

1. Keyboard
2. Mouse
3. Monitor
4. Disk drive

1-75. Which of the following devices is a pointing device that can be used in place of the mouse?

1. Tab key
2. Shift key
3. Ctrl key
4. Trackball